

Catalogue of American Amphibians and Reptiles.

COLLINS, JOSEPH T., AND JAMES L. KNIGHT. 1980. *Crotalus horridus*.

***Crotalus horridus* Linnaeus**
Timber rattlesnake

Crotalus horridus Linnaeus, 1758:214. Type-locality, "America," restricted to vicinity of New York City (Schmidt, 1953). Type specimen originally in the King Adolph Frideric collection; later sent to the Royal Zoological State Museum at Stockholm, but now lost (Klauber, 1972).

Crotalus boiquira Lacépède, 1789:130 (part). Type-locality, "the New World." Type specimen not designated.

Crotalus atricaudatus Latreille, 1801:209. Type-locality, "Carolina," restricted to Charleston, South Carolina, by Schmidt (1953). Type specimen not designated.

Crotalus zetazomae Brickell, 1805:164. Type-locality not given, "probably vicinity of Savannah, Georgia," (Klauber, 1972). Type specimen not designated.

Crotalinus cyanurus Rafinesque, 1818:446. Type-locality, "the barrens of Kentucky." Type specimen not designated.

Crotalus catesbaei Hemprich, 1820:387. Type-locality, "South America to Carolina." Type specimen not designated.

Crotalus durissus var. *concolor* Jan, 1859:153. Type-locality, "Amérique septentrionale." The holotype, deposited in the Munich Museum, Germany, cannot be located.

Crotalus durissus var. *melanurus* Jan, 1859:153. Type-locality, "Caroline du Sud." Holotype, Museum National d'Histoire Naturelle, Paris 821, collector and date collected unknown (not examined by authors).

Crotalus durissus var. *mexicana* Jan, 1863:123. Type-locality, "Texas." Holotype, Rijksmuseum van Natuurlijke Historie, Leiden 1574, collector "Frank," date collected unknown (not examined by authors).

Crotalus fasciatus Higgins, 1873:81 (part). Type-locality, "U. S. of Columbia." Type specimen not designated.

Crotalus horridus horridus: Gloyd, 1936:176.

Crotalus horridus atricaudatus: Gloyd, 1936:176.

• **CONTENT.** The species is monotypic.

• **DEFINITION.** *Crotalus horridus* is a large rattlesnake varying in adult size from 887 to 1892 mm in total length (maximum for males, 1892 mm; for females, 1550 mm). Young at birth vary in total length from 238 to 395 mm (both sexes). Scutellation is as follows: dorsal scale rows (keeled) at midbody, 21–26; ventrals in males, 158–177, in females, 163–183; subcaudals in males, 20–30, in females, 13–30; supralabials, 10–17; infralabials, 11–19; postoculars, 2–6; loreals, 1–3; internasals, 2. Lower anterior border of orbit separated from supralabials by two or more scales. Top of head with small scales anteriorly. Supraoculars complete. Prenasals in contact with rostral. Second infralabials in contact with chin shields.

Dorsal pattern consists of 15 to 34 chevronlike, dark bands becoming crossbands posteriorly (in patterned specimens), or occasionally obscured by nearly black ground color (in unpatterned specimens). Ground color may be uniform black, chocolate brown, tan, gray, pinkish gray or yellow. Tail is obscurely banded, or uniform black, brown or dark gray, occasionally with small spots or flecks of pale color on the ventral surface. Venter of body is cream, white, yellow, buff or pinkish, and is stippled, flecked or blotched with gray, brown or black. Top of head varies from uniform dark to pale, sometimes with round occipital spots. Sides of head may or may not have a brown stripe (2–3 scale rows wide) extending from eye to angle of mouth and below. A rusty or reddish, longitudinal, dorsal stripe (1–4 scale rows wide) may or may not be present. Rattle is relatively large, and rattles are 3.5 mm wide or wider in adults.

• **DESCRIPTIONS.** Since the brief original description (Linnaeus, 1758), *Crotalus horridus* has been described in detail (Gloyd, 1940; Klauber, 1972; and many others). Gloyd (1940) and Klauber (1972) provided data on scutellation and color pattern. Pisani et al. (1973) analyzed variation of selected characters. Klauber (1972) described osteology of the skull. Hardaway and Williams (1976) discussed costal cartilages.

• **ILLUSTRATIONS.** Black and white photographs are provided in Gloyd (1940), Minton (1969) and Klauber (1972). Color photographs are included in Barbour (1971), Palmer (1974) and Conant (1975). Klauber (1972) provided a line drawing of the dorsal pattern. Gloyd (1940) illustrated head scutellation with line drawings. A black and white photograph of the hemipenes is in Gloyd (1940).

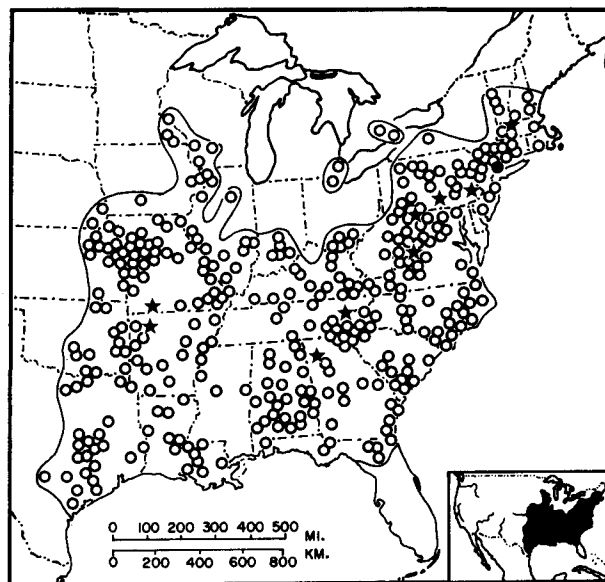
• **DISTRIBUTION.** *Crotalus horridus* once ranged throughout the eastern United States from extreme southern Maine, southern Vermont and New Hampshire, the southern portions of New York, and southern Ontario, south to northern Florida, and west to the eastern portions of Texas, Oklahoma and Kansas, and extreme southeastern Nebraska. It is absent from northeastern Illinois and northern Indiana, and the northern two-thirds of Ohio except for presumably relictual colonies in Ottawa County and on a few Lake Erie islands. This species extends north in the Mississippi River drainage through eastern Iowa, western Illinois, extreme southeastern Minnesota and southwestern Wisconsin. *C. horridus* is considered extirpated in various sections of its former range along the Atlantic coast from extreme southern Maine to Washington, D.C. (Klauber, 1972; Kimball, 1978), and from all of Ontario (Froom, 1972).

Habitat preferences for this species vary from partially forested, limestone outcrops in the northern half of its range (New England to Nebraska and Kansas) to flatwoods and elevated swamp-edge situations in the southern portion. It apparently reaches elevations of 6000 feet (ca. 1830 m) in the northeastern part of its range (Klauber, 1972).

• **FOSSIL RECORD.** Klauber (1972) compiled records of Pleistocene and Recent fossils assignable to *Crotalus horridus* for Arkansas, Georgia, Maryland, Massachusetts, Pennsylvania, Tennessee and Virginia. Holman (1974; 1977) reported Pleistocene remains from Missouri and Maryland.

• **PERTINENT LITERATURE.** Gloyd (1940) and Klauber (1972) published the most extensive systematic and distributional summaries, plus a wealth of related information on the biology of this species. Pisani et al. (1973) subjected selected morphological and morphometric characters of this species to a multivariate analysis.

Klauber (1972) presented information on climbing, denning, food, habitat, nocturnal activity, swimming and venom. Various aspects of the biology of *C. horridus* are presented in recent works, as follow: venom (Johnson et al., 1968; Minton and Minton, 1969; Minton, 1971); feeding strike (Minton, 1969); sex-independent ground color (Schaefer, 1969); spatial relations (Fitch and Shirer, 1971); fat bodies and lipids (Cale and Gibbons, 1972);



MAP. The solid circle marks the restricted type-locality; open circles indicate other localities; stars mark Pleistocene and Recent fossil sites.

reproduction, growth and sexual dimorphism (Fitch, 1970; Gibbons, 1972); sexual differences in feeding habits (Keenlyne, 1972); intergeneric mating (Smith and Page, 1972); karyotypes (Baker, Mengden and Bull, 1972); various aspects of biochemistry (Florkin and Scheer, 1974); sexual weight-length relationships (Kaufman and Gibbons, 1975); and pattern aberrancies (Nickerson and Mays, 1968).

Recent distributional information is in the following works: Alabama (Mount, 1975); Connecticut (Petersen, 1970); Indiana (Minton, 1972); Kansas (Collins, 1974); Kentucky (Barbour, 1971); Maryland (Harris, 1975); North Carolina (Palmer, 1974); Oklahoma (Webb, 1970); Texas (Raun and Gehlbach, 1972); New England (Kimball, 1978); and the entire range (Conant, 1975).

• **NOMENCLATURE HISTORY.** Klauber (1941) discussed the confusion between the Linnaean names *horridus* and *durissus*, and, in the interest of stability, proposed the former for the taxon considered in this account. A synonymy of the usage of these names is given in Gloyd (1940), and the synonyms are discussed in Klauber (1972). Gloyd (1936) resurrected *Crotalus horridus atricaudatus* Latreille for the southern populations of this species. Pisani et al. (1973) placed *C. h. atricaudatus* Latreille 1801 as a junior synonym of *Crotalus horridus* Linnaeus 1758.

• **REMARKS.** Klauber (1972) compiled the most complete bibliography on *Crotalus horridus* through 1967. Literature cited in this account is primarily post-1967 except for the synonymy and a few important works.

• **ETYMOLOGY.** The specific name *horridus* is of Latin derivation and means dreadful, in reference to the venomous nature of this snake.

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